ELSEVIER

Author Index — Volume 72

Ahlqvist, T., 501
Ahmed, S., 609
Albeni, M., 866
Aligica, P.D., 815
Antonio del Río, J., 798
Atilla Oner, M., 886
Ayres, R.U., 936

Bodger, P., 1030
Borch, K., 549
Boyack, K.W., 1122
Boylan, R.L., 213

Chandrashekar, S., 287
Chang, S.-C., 623
Chen, J.H., 850
Cheng, J.Z., 1
Chermack, T.J., 59
Coates, J.F., 101
Coccia, M., 117, 944
Corning, P.A., 749
Cortés, H.D., 798
Cruz-Castro, L., 429

Daim, T.U., 1153
Dayasindhu, N., 287
Decker, M., 1112
Devezas, T.C., 111, 913, 1137

Eto, H., 359
Elzen, B., 651

Ferrill, M., 349
Fiedeler, U., 1112
Fleischer, T., 1112
Foster, C., 663

Geels, F.W., 681
Gerard, D., 761
Gilbert, A.L., 327
Glenn, J.C., 1064
Gordon, T.J., 1064
Gouvea, R., 535
Green, K., 663
Grupp, H., 413

Han, H., 327
Hiöb, T.N., 401
Holmes, C., 349
Hounshell, D.A., 697
Huebner, J., 980, 995
Hur, J.Y., 11

Jakil, A., 1064
Jan, T.S., 850
Jenkins, C., 401
Jørgensen, U., 719

Karaoz, M., 866
Karger, C., 195
Karypis, G., 798
Kassicieh, S., 535
Kim, T.-Y., 825
Kim, W.-J., 825
Knight, A.J., 521
Koh, W.T.H., 249, 255
Konstandopoulos, A.G., 49
Kostoff, R.N., 798
Kosugi, T., 779

Lai, H.-C., 623
Lave, L.B., 761
Lee, D.-J., 1044
Lee, J., 449

Technological Forecasting and Social Change 72, 1157–1162 (2005)

© 2005 Elevier Science Inc. All rights reserved.

360 Park Avenue South, New York, NY 10010–1710

0040-1625/$ - see front matter
doi:10.1016/S0040-1625(05)00158-7

Lee, J.-D., 825
Lee, S., 567
Lee, S.-J., 1044
LePoire, D.J., 471
Leydesdorff, L., 798
Liebl, F., 161
Linstone, H.A., 237, 757, 913
Liu, W., 339

MacDermott, C., 213
Malpohl, G., 798
Martino, J.P., 499, 1155
Matsumoto, K., 11
McColl, A., 377
Mitroff, I., 375
Modis, T., 49, 241, 938, 987
Mohamed, Z., 1030
Molitor, G.T.T., 85, 481
Mullins, R.J., 401

Narasimhalu, D.A., 249
Niewöhner, J., 195

Oh, H.-S., 1044

Parenté, R.J., 401
Park, S., 301
Park, Y., 145, 567
Patton, K.M., 1082
Paulson, A., 213
Phillips, F., 245
Poe, M.P., 401
Porter, A.L., 1070
Postma, T.J.B.M., 161

Qayum, A., 75

Rahal, N., 1122
Rasmussen, B., 549
Ravi, V., 1011
Rowe, G., 377
Rubin, E.S., 697

Santos, H.J.S., 913
Sanz-Menéndez, L., 429
Saritas, O., 886
Scapolo, F., 1059
Schicktanz, S., 195
Shankar, R., 1011
Sharma, K., 645
Silver, R.A., 401
Sincoskie, W.D., 1
Sleegers, A.M., 175
Smart, J., 988
Smith, A., 798
Smith, C., 798
Stadler, M., 413
Stewart, P.A., 521

Tan, W.L., 249
Tannert, C., 195
Taylor, M.R., 697
Tien, M.-C., 29
Tokimatsu, K., 779
Tshiteya, R., 798

Uri, N.D., 585

Van Asselt, M.B.A., 175
Van de Kerkhof, M., 733
Van Lente, H., 1094
Van Merkerk, R.O., 1094
Van Notten, Ph.W.F., 175

Wagner, C., 798
Wakeland, W., 753
Walsh, S.T., 213
Wang, C.E., 641
Watanabe, C., 11
Wee, H.M., 641
Wee, P.K.P., 641
Wieczorek, A., 651
Wieczorek, A.J., 733
Wiedemann, P., 195
Wong, P.K., 255
Wonglimpiyarat, J., 1001
Wright, G., 377

Yang, C.-C., 29
Yoon, B., 145
Yoon, M.-G., 449
Yoon, S.-H., 301, 449
Yoshida, H., 779
Yu, H.-C., 1, 623

Book Review Index — Volume 72

Daim, T.U., *Sectoral Systems of Innovation: Concepts, Issues and Analyses of Six Major Sectors in Europe,* (Franco Malerba), 1153
Devezas, T.C., *The International Handbook on Innovation,* (Larisa V. Shavinia), 111
Linstone, H.A., *Bioterrorism, Preparedness, Attack and Response,* (John D. Blair, Myron D. Fottler and Albert C. Zapanta), 237
Martino, J.P., *The Twentieth Century,* (Albert Robida and Wesleyan U. Press), 499
Martino, J.P., *The Economics of Technology Diffusion and Energy Efficiency,* (Peter Mulder), 1155
Modis, T., *How Biotech Became the New Religion,* (Brian Alexander), 241
Phillips, F., *Innovation, Entrepreneurship and Culture: The Interaction Between Technology, Progress and Economic Growth,* (T.E. Brown and J. Ulijn), 245
Sharma, K., *Energy at the Crossroads: Global Perspectives and Uncertainties,* (Vaclav Smith), 645
Wakeland, W., *The Internet in the Workplace,* (Patricia Wallace), 753

Subject Index — Volume 72

Agricultural biotechnology, politics, policy and plant-made pharmaceuticals, trends affecting the next generation of U.S., 72:521

Biomedicine, and the relationship with the economy in developing citizen scenarios in Germany in 2014, 72:195
Biosociety, developing key technologies and new professions, from information society to, 72:501
Biotechnology, Brazil, the Amazon, using resources in R&D policy planning, 72:535
Brazil, using resources in R&D policy planning, 72:535
Broadband, access networks, selecting a technology evolution path, 72:449
Broadband, infrastructure demands, the promise of Gigabit Ethernet, 72:1
Broadband, the case of Internet access in Korea, 72:301

Cable service, estimating the demand in the U.S. in the presence of measurement error in the data, 72:585
Canon, assessment of sustainable growth trajectory utilizing technological diversification and techno-economic structure, 72:11
China, intellectual property protection related to technology in, 72:339
Citizen scenarios, development of, in the relationship between biomedicine and the economy in Germany in 2014, 72:195
Clean Air Act, introduction of advanced automotive emissions controls, 72:761
Co-evolutionary multi-level perspective, processes and patterns in transitions and system innovations, 72, 681
CO_2 reduction, evaluating new technologies in Japan up to 2030, 72:779
Core competencies, epochs driven by the dynamics between disruptive technologies and, 72:213

Danish experience, refining the debate on GM crops using technological foresight, 72:549
Delphi, the role of majority influence, expertise and confidence, 72:377
Delphi, impeachment and terrorism, accuracies of short-range forecasts for volatile world events, 72:401
Demand forecasting, combining discrete choice and dynamics of diffusion under technological trajectories, 72:825
Discussion of Devezas et al. article,
Ayres, comments by, 72:936
Discussion of Huebner article,
Modis, comments by, 72:987
Smart, comments by, 72:988
Huebner, response by, 72:995

Disruptive technologies, epochs driven by the dynamics between core competencies and, 72:213

Early-adopters, separating from the majority, the case of Broadband Internet access in Korea, 72:301
Economic growth models, endogenicity of, 72:75
Electricity consumption, in New Zealand, a comparison of Logistic and Harvey models, 72:1030
Electric load demand, seasonal models, 72:609
Emerging technologies,
identification and selection of in Singaporean SMEs, 72:349
tracing emerging irreversibilities, the case of nanotubes, 72:1094
methodological challenges and the case of nanotechnologies, 72:1112
Emissions controls, implementing technology-forcing policies, the 1970 Clean Air Act Amendments, 72:761
Energy, technologies and regulatory policies in flux, 72:719
Evolutionary theory, technological change, state-of-the-art and new approaches, 72: 1137

Firm's techno-economic structure, and technological diversification in assessment of Canon's sustainable growth trajectory, 72:11
Food consumption, and production systems, transformations in, 72:663
From my perspective:
economic activities likely to dominate the new millennium, VII. Principles and patterns of economic era development 72:85
the future of clothing, 72:101
lessons from 9/11, are companies better prepared today, 72:375
VIII. continuum of change: perspectives on physical or "hard" sciences, 72:481
business is not what it used to be.. and never will be, 72:641
why we need a strategic plan for "spaceship earth", 72:749
Frontiers, future research, what's next, 72:1064
Future-oriented technology analysis, new horizons and challenges, the 2004 EU-US Seminar, 72:1059
Futures research, what's next, 72:1064

Future shocks, on discontinuity and scenario development, 72:175

Germany, developing citizen scenarios for the relationship between biomedicine and the economy in 2014, 72:195
Gigabit Ethernet, meeting the broadband access infrastructure demands, the promise of, 72:1
GM crops, refining the debate using technological foresight–the Danish experience, 72:549
Greece, urban guerrilla activities in, 72:49
Grey forecasting model, semiconductor industry production in Taiwan, 72:623
Guerrilla, activities in Greece, 72:49

History of physics, application of logistic analysis, 72:471

ICP mechanism, review and stage approach for Taiwan, 72:29
Impeachment, terrorism and the Delphi method, short-range forecasts for volatile world events, 72:401
Induced technological innovation, control of SO2 emissions from power plants in the U.S., 72:697
Information society, on societal waves, developing key technologies and new professions, 72:501
Innovation policies, and technology management in Asia, lessons learnt and future challenges, 72:249
Intellectual property protection, related to technology in China, 72:339
Intelligence systems, the role of scanning, 72:1082
Internet,
growth dynamics and the long wave theory, 72:913
internet, the end of the rush, 72:938
Investment areas, evaluation of laboratory directed research and development at Sandia, 72:1122
Irreversibilities, in emerging technologies, the case of nanotubes, 72:1094

Japan, evaluating new CO_2 reduction technologies, 72:779

Knowledge, notes on the epistemic element in scenario building, 72:815

Korea, separating early-adopters from the majority, the case of Broadband Internet access, 72:301
Korean stock market, a dynamic competition analysis using Lotka-Volterra model for technological forecasting, 72:1044

LDRD, investment areas at Sandia, 72:1122
Logistic analysis, application to the history of physics, 72:471
Logistic and Harvey models, a comparison for electricity consumption in New Zealand, 72:1030
Long wave theory, and the growth dynamics of the Internet, 72:913
Lotka-Volterra model, a dynamic competition analysis, technological forecasting at the Korean stock market, 72:1044

Majority influence, expertise and confidence, judgement change during Delphi-like procedures, 72:377
Managing emerging technologies, in Asia, special issue, 72(3)
Measuring intensity of technological change, the seismic approach, 72:117
Mexico's science and technology, structure and infrastructure, 72:798
Mobile data services, demography, attitudes or needs, 72:327
Morphology analysis, keyword based, a systematic approach for identifying technology opportunities, 72:145
Multigenerational products, combining discrete choice and dynamics of diffusion, demand forecasting for, 72:825

Nanotechnologies, assessing emerging technologies, 72:1112
Nanotubes, tracing emerging irreversibilities in emerging technologies, 72:1094
New Zealand, a comparison of Logistic and Harvey models for electricity consumption, 72:1030

Participatory prognostics, developing citizen scenarios for the relationship between biomedicine and the economy in Germany in 2014, 72:195
Pharmaceuticals, trends affecting the next generation of U.S. agricultural biotechnology, 72:521
Physical or "hard" sciences, continuum of change: perspectives on, 72:481
Politics, European parliamentary technology assessment, 72:429
Production systems, give peas a chance, transformations in food consumption and, 72:663

Quality-ladder approach, technological progress and market growth, an empirical study based on, 72:413

R&D policy planning, Brazil, the Amazon and biotechnology, 72:535
Regulatory policies, and technologies, energy sector in transition, 72:719
Remote sensing, program in India, a national system of innovation, 72:287
Reverse logistics, analysis of interactions among its barriers, 72:1011
Roadmapping, to aid Singaporean SMEs identify and select emerging technologies, 72:349
Roadmapping, customization of technology roadmaps, process and detailed modules, 72:567

Sandia, evaluation of LDRD investment areas, 72:1122
Scanning, its role in open intelligence systems, 72:1082
Scenario analysis, as a strategic management tool, 72:161
Scenarios, and the growth of knowledge, notes on the epistemic element in scenario building, 72:815
Scenario development, the future shocks, 72:175
Scenario planning, theory, research suggestions and hypotheses, 72:59
Seismic approach, measuring intensity of technological change, 72:117
Semiconductor industry, a variable P value rolling Grey forecasting model for Taiwan, 72, 623
Semiconductor industry, a variety increasing view of its development in Taiwan, 72:850
Semiconductor silicon industry roadmap, epochs driven by the dynamics between disruptive technologies and core competencies, 72:213
Singapore's economic strategy, the changing role of technology policy, competing at the frontier, 72:255

Singaporean SMEs, identify and select emerging technologies with the application of Operation and Technology Roadmapping, 72:349
Smart card market, is collaborative strategy necessary in the shaping of, 72:1001
SO_2, control of emissions from power plants, a case of induced technological innovation in the U.S., 72:697
Spaceship earth, why we need a strategic plan, from my perspective, 72:749
Strategic management, how to improve scenario analysis, 72:161
Sustainability,
through system innovation, special issue, 72:651
learning and stakeholder participation in transition processes, methodological considerations, 72:733
System innovation, transitions towards sustainability through, 72:651
System of innovation, Indian remote sensing program, 72:287

Taiwan, development of the semiconductor industry, a variety increasing view, 72:850
Taiwan's ICP mechanism, a review and stage approach, 72:29
Technological change, state-of-the-art and new approaches, 72:1137
Technological diversification, an assessment of Canon's sustainable growth trajectory, 72:11
Technological progress, and market growth, an empirical study based on the quality-ladder approach, 72:413
Technology assessment, in politics and institutions of the European parliament, 72:429
Technology evolution path, selection of for broadband access networks, 72:449
Technology-forcing policies, the 1970 Clean Air Act Amendments and the introduction of advanced automotive emissions controls in the United States, 72:761
Technology management, and innovation policies in Asia, 72:249
Technology opportunities, a systematic approach for identification of, 72:145
Technology parks, ventures and clusters in Japan, obstacles to emergence of high/new, 72:359
Technology policy, its changing role in Singapore's economic strategy, 72:285
Technology roadmaps, customization according to roadmapping purposes, overall process and detailed modules, 72:567
Technometrics, origins, historical evolution and new directions, 72:944
Transition processes, towards sustainability, learning and stakeholder participation, 72:733
Turkish manufacturing, industrial dynamic technological learning trends, 72:866
Turkish 5-year development, construction sector, a systems approach to policy analysis and development planning, 72:886

Wakeup call, for America, editorial, 72:757
Worldwide innovation, a possible declining trend, 72:980

9/11, lessons from, are companies better prepared today, from my perspective, 72:375

2004 EU-US Seminar, new horizons and challenges for future-oriented technology analysis, 72:1059

Technological Forecasting and Social Change

An International Journal

Volume 72, Number 1, January 2005

Contents

JOE Z. CHENG **HSIAO-CHENG YU** (Hsinchu, Taiwan) **W. DAVID SINCOSKIE** (Morristown, NJ, USA)	Meeting the Broadband Access Infrastructure Demands: The Promise of Gigabit Ethernet	1
CHIHIRO WATANABE **JAE YONG HUR** (Tokyo, Japan) **KIYOFUMI MATSUMOTO** (Tokyo, Japan)	Technological Diversification and Firm's Techno-Economic Structure: An Assessment of Canon's Sustainable Growth Trajectory	11
MO-CHUNG TIEN **CHING-CHOW YANG** (Chung-Li, Taiwan)	Taiwan's ICP Mechanism—A Review and a Stage Approach	29
ATHANASIOS G. KONSTANDOPOULOS (Thessaloniki, Greece) **THEODORE MODIS** (Garza Garcia, N.L., Mexico and Geneva, Switzerland)	Urban Guerrilla Activities in Greece	49
THOMAS J. CHERMACK (Saint Paul, MN, USA)	Studying Scenario Planning: Theory, Research Suggestions, and Hypotheses	59
ABDUL QAYUM (Portland, OR, USA)	Endogenicity of Economic Growth Models	75
	Columns	
GRAHAM T.T. MOLITOR (Potomac, MD, USA)	*From My Perspective* Five Economic Activities Likely to Dominate the New Millenium VII: Principles and Patterns of Economic Era Development	85
JOSEPH F. COATES (Washington, DC, USA)	*From My Perspective* The Future of Clothing	101
	Book Review	
TESSALENO C. DEVEZAS (Covilnã, Portugal)	*The International Handbook on Innovation* (L.V. Shavinina)	111

Technological Forecasting and Social Change

An International Journal

Volume 72, Number 2, February 2005

Contents

MARIO COCCIA (Turin, Italy)	Measuring Intensity of Technological Change: The Seismic Approach	117
BYUNGUN YOON **YONGTAE PARK** (South Korea)	A Systematic Approach for Identifying Technology Opportunities: Keyword-Based Morphology Analysis	145
THEO J.B.M. POSTMA (Groningen, The Netherlands) **FRANZ LIEBL** (Witten, Germany)	How to Improve Scenario Analysis as a Strategic Management Tool?	161
PH.W.F. VAN NOTTEN (Maastricht, The Netherlands) **A.M. SLEEGERS** (Louvain, Belgium) **M.B.A. VAN ASSELT** (Maastricht, The Netherlands)	The Future Shocks: On Discontinuity and Scenario Development	175
J. NIEWÖHNER (Berlin, Germany) **P. WIEDEMANN** **C. KARGER** **S. SCHICKTANZ** (Juelich, Germany) **C. TANNERT** (Berlin, Germany)	Participatory Prognostics in Germany—Developing Citizen Scenarios for the Relationship Between Biomedicine and the Economy in 2014	195
STEVEN T. WALSH (Albuquerque, NM, USA) **ROBERT L. BOYLAN** (Portavett, FL, USA) **CHRIS MACDERMOTT** **AL PAULSON** (Troy, NY, USA)	The Semiconductor Silicon Industry Roadmap: Epochs Driven by the Dynamics Between Disruptive Technologies and Core Competencies	213

Book Reviews

HAROLD A. LINSTONE (Portland, OR, USA)	*Bioterrorism, Preparedness, Attack and Response* (J.D. Blair, M.D. Fottler, A.C. Zapanta)	237
THEODORE MODIS (Geneva, Switzerland)	*How Biotech Became the New Religion* (B. Alexander)	241
FRED PHILLIPS (Maastricht, The Netherlands)	*Innovation, Entrepreneurship and Culture: The Interaction Between Technology, Progress and Economic Growth* (T.E. Brown, J. Ulijn)	245

Technological Forecasting and Social Change

An International Journal

Volume 72, Number 3, March 2005

Contents

Special Issue
Managing Emerging Technologies in Asia

Guest Editors
Winston Koh, Desai Narasimhalu and Wee Liang Tan

WINSTON T.H. KOH **DESAI A. NARASIMHALU** **WEE LIANG TAN** (Singapore)	Innovation Policies and Technology Management in Asia: Lessons Learnt and Future Challenges	249
WINSTON T.H. KOH **POH KAM WONG** (Singapore)	Competing at the Frontier: The Changing Role of Technology Policy in Singapore's Economic Strategy	255
N. DAYASINDHU **S. CHANDRASHEKAR** (Bangalore, India)	Indian Remote Sensing Program: A National System of Innovation?	287
SANGMOON PARK (Suwon Kyunggi-Do, Republic of Korea) **SOO-HYEON YOON** (Seoul, Republic of Korea)	Separating Early-Adopters from the Majority: The Case of Broadband Internet Access in Korea	301
A. LEE GILBERT **HILDA HAN** (Singapore)	Understanding Mobile Data Services Adoption: Demography, Attitudes or Needs?	327
WENQI LIU (Singapore)	Intellectual Property Protection Related to Technology in China	339
CHRIS HOLMES **MIKE FERRILL** (Singapore)	The Application of Operation and Technology Roadmapping to Aid Singaporean SMEs Identify and Select Emerging Technologies	349
HAJIME ETO (Chiba City, Japan)	Obstacles to Emergence of High/New Technology Parks, Ventures and Clusters in Japan	359
	Column	
	From My Perspective	
IAN MITROFF (Los Angeles, CA, USA)	Lessons from 9/11: Are Companies Better Prepared Today?	375

Technological Forecasting and Social Change

An International Journal

Volume 72, Number 4, May 2005

Contents

GENE ROWE (Norwich, UK) **GEORGE WRIGHT** (Glasgow, UK) **ANDY MCCOLL** (Durham, UK)	Judgment Change During Delphi-like Procedures: The Role of Majority Influence, Expertise, and Confidence	377
RICK J. PARENTÉ TIFFANY NOËL HIOB REBECCA A. SILVER CARRIE JENKINS MARGARET P. POE R. JACOB MULLINS (Towson, MD, USA)	The Delphi Method, Impeachment and Terrorism: Accuracies of Short-range Forecasts for Volatile World Events	401
HARIOLF GRUPP (Karlsruhe, Germany) **MANFRED STADLER** (Tuebingen, Germany)	Technological Progress and Market Growth: An Empirical Study Based on the Quality-Ladder Approach	413
LAURA CRUZ-CASTRO LUIS SANZ-MENÉNDEZ (Madrid, Spain)	Politics and Institutions: European Parliamentary Technology Assessment	429
SOO-HYEON YOON (Seoul, Republic of Korea) **MOON-GIL YOON** (Kyunggi-do, Republic of Korea) **JINJOO LEE** (Seoul, Republic of Korea)	On Selecting a Technology Evolution Path for Broadband Access Networks	449
DAVID J. LEPOIRE (Argonne, IL, USA)	Application of Logistic Analysis to the History of Physics	471
	Column	
GRAHAM T.T. MOLITOR (Potomac, MD, USA)	*From My Perspective* VIII. Continuum of Change: Perspectives on Physical or "Hard" Sciences	481
	Book Review	
JOSEPH P. MARTINO (Sidney, OH, USA)	*The Twentieth Century* (A. Robida, W.U. Press)	499

Technological Forecasting and Social Change

An International Journal

Volume 72, Number 5, June 2005

Contents

TONI AHLQVIST (Turku, Finland)	From information society to biosociety? On societal waves, developing key technologies, and new professions	501
PATRICK A. STEWART **ANDREW J. KNIGHT** (AR, USA)	Trends affecting the next generation of U.S. agricultural biotechnology: Politics, policy, and plant-made pharmaceuticals	521
RAUL GOUVEA **SUL KASSICIEH** (Albuquerque, NM, USA)	Using resources in R&D policy planning: Brazil, the Amazon and biotechnology	535
KRISTIAN BORCH **BIRGITTE RASMUSSEN** (Roskilde, Denmark)	Refining the debate on GM crops using technological foresight—the Danish experience	549
SUNGJOO LEE **YONGTAE PARK** (Seoul, South Korea)	Customization of technology roadmaps according to roadmapping purposes: Overall process and detailed modules	567
NOEL D. URI (Washington, DC, USA)	Estimating the demand for cable service in the U.S. in the presence of measurement error in the data	585
SHAMSUDDIN AHMED (Al Ain, United Arab Emirates) (Perth, WA, Australia)	Seasonal models of peak electric load demand	609
SHIH-CHI CHANG (Hsinchu, Chiayi, Taiwan) **HSIEN-CHE LAI** **HSIAO-CHENG YU** (Hsinchu, Taiwan)	A variable *P* value rolling Grey forecasting model for Taiwan semiconductor industry production	623
	Column	
PAUL KIAN PING WEE (New South Wales, Australia) **C. EDWARD WANG** (Chia-Yi, Taiwan) **HUI MING WEE** (Chung-Li, Taiwan)	*From My Perspective* Business Is Not What it Used to Be. . .and Never Will Be	641
	Book Review	
KISH SHARMA (Solana Beach, CA, USA)	*Energy at the Crossroads: Global Perspectives and Uncertainties* (V. Smil)	645

Technological Forecasting and Social Change

An International Journal

Volume 72, Number 6, July 2005

Contents

Special Issue
Transitions towards Sustainability through System Innovation

Guest Editors
Boelie Elzen and Anna Wieczorek

BOELIE ELZEN **ANNA WIECZOREK** (Enschede and Amsterdam, The Netherlands)	Introduction: Transitions towards Sustainability through System Innovation	651
KEN GREEN **CHRIS FOSTER** (Manchester, UK)	Give Peas a Chance: Transformations in Food Consumption and Production Systems	663
F.W. GEELS (Eindhoven, The Netherlands)	Processes and Patterns in Transitions and System Innovations: Refining the Co-Evolutionary Multi-Level Perspective	681
MARGARET R. TAYLOR (Berkeley, CA, USA) **EDWARD S. RUBIN** **DAVID A. HOUNSHELL** (Pittsburg, PA, USA)	Control of SO_2 Emissions from Power Plants: A Case of Induced Technological Innovation in the U.S.	697
ULRIK JØRGENSEN (Lyngby, Denmark)	Energy Sector in Transition—Technologies and Regulatory Policies in Flux	719
MARLEEN VAN DE KERKHOF **ANNA WIECZOREK** (Amsterdam, The Netherlands)	Learning and Stakeholder Participation in Transition Processes towards Sustainability: Methodological Considerations	733

Column

PETER A. CORNING (Palo Alto, CA, USA)	*From My Perspective* Why We Need a Strategic Plan for "Spaceship Earth"	749

Book Review

WAYNE WAKELAND (Portland, OR, USA)	*The Internet in the Workplace* (P. Wallace)	753

Technological Forecasting and Social Change

An International Journal

Volume 72, Number 7, September 2005

Contents

HAROLD A. LINSTONE	Editorial: A Second Wakeup Call for America	757
DAVID GERARD **LESTER B. LAVE** (Pittsburgh, PA, USA)	Implementing Technology-Forcing Policies: The 1970 Clean Air Act Amendments and the Introduction of Advanced Automotive Emissions Controls in the United States	761
TAKANOBU KOSUGI (Kyoto, Japan) **KOJI TOKIMATSU** (Tokyo, Japan) **HAJIME YOSHIDA** (Kanagawa, Japan)	Evaluating New CO_2 Reduction Technologies in Japan up to 2030	779
RONALD N. KOSTOFF (Arlington, VA, USA) **J. ANTONIO DEL RÍO** **HÉCTOR D. CORTÉS** (Temixco, Mor. México) **CHARLES SMITH** (Bethesda, MD, USA) **ANDREW SMITH** (Brisbane, Australia) **CAROLINE WAGNER** **LOET LEYDESDORFF** (Amsterdam, The Netherlands) **GEORGE KARYPIS** (Minneapolis, MN, USA) **GUIDO MALPOHL** (Karlsruhe, Germany) **RENE TSHITEYA** (Mclean, VA, USA)	The Structure and Infrastructure of Mexico's Science and Technology	798
PAUL DRAGOS ALIGICA (Arlington, VA, USA; Bucharest, Romania)	Scenarios and the Growth of Knowledge: Notes on the Epistemic Element in Scenario Building	815
WON-JOON KIM **JEONG-DONG LEE** **TAI-YOO KIM** (Seoul, Korea)	Demand Forecasting for Multigenerational Products Combining Discrete Choice and Dynamics of Diffusion under Technological Trajectories	825
JIAN HUNG CHEN **TAIN SUE JAN** (Hsinchu, Taiwan)	A Variety-Increasing View of the Development of the Semiconductor Industry in Taiwan	850

(contents continued overleaf)

(contents continued)

Contents

MURAT KARAOZ **MESUT ALBENI** (Isparta, Turkey)	Dynamic Technological Learning Trends in Turkish Manufacturing Industries	866
M. ATILLA ONER (Istanbul, Turkey) **OZCAN SARITAS** (Manchester, UK)	A Systems Approach to Policy Analysis and Development Planning: Construction Sector in the Turkish 5-Year Development Plans	886

Technological Forecasting and Social Change

An International Journal

Volume 72, Number 8, October 2005

Contents

TESSALENO C. DEVEZAS (Covilhã, Portugal) **HAROLD A. LINSTONE** (Portland, OR, USA) **HUMBERTO J.S. SANTOS** (Covilhã, Portugal)	The Growth Dynamics of the Internet and the Long Wave Theory	913
	Discussion of Devezas et al. Article	
	Comments by Robert U. Ayres	936
THEODORE MODIS (Lugano, Switzerland)	The End of the Internet Rush	938
MARIO COCCIA (Moncalieri (Torino), Italy)	Technometrics: Origins, Historical Evolution and New Directions	944
JONATHAN HUEBNER	A Possible Declining Trend for Worldwide Innovation	980
	Discussion of Huebner Article	
	Comments by Theodore Modis	987
	Comments by John Smart	988
	Response by Jonathan Huebner	995
JARUNEE WONGLIMPIYARAT (Pathumthani, Thailand)	Standard Competition: Is Collaborative Strategy Necessary in Shaping the Smart Card Market?	1001
V. RAVI RAVI SHANKAR (New Delhi, India)	Analysis of Interactions Among the Barriers of Reverse Logistics	1011
ZAID MOHAMED PAT BODGER (Christchurch, New Zealand)	A Comparison of Logistic and Harvey Models for Electricity Consumption in New Zealand	1030
SEONG-JOON LEE (Daejeon, Korea) **DEOK-JOO LEE** (Kyunggi-do, Korea) **HYUNG-SIK OH** (Seoul, Korea)	Technological Forecasting at the Korean Stock Market: A Dynamic Competition Analysis Using Lotka–Volterra Model	1044

Technological Forecasting and Social Change

An International Journal

Volume 72, Number 9, November 2005

Contents

Special Issue
New Horizons and Challenges for Future-Oriented Technology Analysis: The 2004 EU-US Seminar
Guest Editor: Fabiana Scapolo

FABIANA SCAPOLO (Seville, Spain)	Introduction	1059
THEODORE J. GORDON JEROME C. GLENN ANA JAKIL (Washington DC, United States)	Frontiers of Futures Research: What's Next?	1064
ALAN L. PORTER (Norcross, GA, USA)	QTIP: Quick Technology Intelligence Processes	1070
KERMIT M. PATTON (Menlo Park, CA, United States)	The Role of Scanning in Open Intelligence Systems	1082
RUTGER O. VAN MERKERK HARRO VAN LENTE (Utrecht, The Netherlands)	Tracing Emerging Irreversibilities in Emerging Technologies: The Case of Nanotubes	1094
TORSTEN FLEISCHER MICHAEL DECKER ULRICH FIEDELER (Karlsruhe, Germany)	Assessing Emerging Technologies—Methodological Challenges and the Case of Nanotechnologies	1112
KEVIN W. BOYACK NABEEL RAHAL (Albuquerque, NM, United States)	Evaluation of Laboratory Directed Research and Development Investment Areas at Sandia	1122
TESSALENO C. DEVEZAS (Covilhã, Portugal)	Evolutionary Theory of Technological Change: State-of-the-Art and New Approaches	1137
	Book Reviews	
TUGRUL U. DAIM (Hillsboro, OR, United States)	*Sectoral Systems of Innovation: Concepts, Issues and Analyses of Six Major Sectors in Europe* (F. Malerba)	1153
JOSEPH P. MARTINO (Sidney, OH, United States)	*The Economics of Technology Diffusion and Energy Efficiency* (P. Mulder)	1155

(contents continued overleaf)

(contents continued)

Contents

Volume 72 Author Index	1157
Volume 72 Book Review Index	1159
Volume 72 Subject Index	1159
Volume 72 Contents	1163